



Bhayaja Atisara and the Brain–Gut Axis: Integrative Literature Review

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Abstract:

This integrative review examines Bhayaja Atisara, a fear-induced diarrhoeal disorder described in Ayurvedic classical literature, in relation to modern scientific understanding of the brain–gut axis. Ayurvedic texts identify emotional disturbances such as fear and grief as etiological triggers capable of disturbing doshik equilibrium and digestive regulation, resulting in symptoms similar to Vataja Atisara. Contemporary biomedical science explains comparable presentations through stress-mediated neural, endocrine, immune, and microbiota-driven mechanisms linking psychological states with gastrointestinal physiology. The purpose of this article is to provide a structured synthesis of classical textual interpretation and current biomedical research while maintaining scholarly neutrality between epistemological frameworks. Emphasis is placed on descriptive accuracy of Ayurvedic nosology, functional interpretation of brain–gut communication pathways, and identification of interdisciplinary research implications.

Index Terms - Bhayaja Atisara, Ayurveda, Brain–Gut Axis, Stress Diarrhoea, Vata, Integrative Medicine

1. Introduction

Ayurveda conceptualises disease through an integrated model that considers physiological, psychological, environmental, and behavioral influences on health. Digestive disorders are interpreted not merely as local pathologies but as systemic dysregulations affecting transformation, assimilation, and elimination. Within this framework, Atisara is characterised by frequent evacuation of loose stools resulting from impairment of digestive fire and doshik disequilibrium. Classical sources emphasise that causative factors may originate internally or externally and include emotional disturbance alongside dietary and environmental triggers.^{1,2}

The recognition of emotional causation demonstrates an early understanding of psychosomatic interaction. Descriptions of Bhayaja and Shokaja Atisara indicate that fear and grief were observed to provoke physiological responses affecting intestinal behaviour. These observations reflect experiential clinical reasoning rather than experimental physiology but nonetheless indicate sophisticated awareness of mind–body connectivity.^{2,3}

In contemporary biomedical science, similar clinical presentations are interpreted through the framework of the brain–gut axis. This model describes bidirectional communication between central nervous system activity and gastrointestinal function mediated by autonomic neural pathways, endocrine signalling, immune modulation, and microbial interaction. Functional bowel disorders characterised by stress-related diarrhoea illustrate the relevance of this model in clinical practice.^{7,8}

Given the conceptual parallels between traditional observation and modern physiology, interdisciplinary scholarship may provide meaningful insight into psychosomatic digestive regulation. This review therefore aims to integrate classical textual discussion with current scientific understanding to promote dialogue between knowledge systems while maintaining theoretical independence.⁶

2. CLASSICAL AYURVEDIC LITERATURE REVIEW

Traditional Ayurvedic literature describes two exogenous forms of diarrhoeal disorder termed Bhayaja and Shokaja Atisara, attributed respectively to fear and grief. Their symptomatology is considered analogous to Vataja Atisara, suggesting disturbance of regulatory principles governing movement and elimination within the body.²

In Vataja conditions accompanied by Ama, stools may appear slimy, spreading, and liquid, accompanied by discomfort and irregular passage of flatus and urine. These features indicate incomplete digestion and accumulation of pathological metabolic products. The descriptions emphasise sensory observation and systemic interpretation rather than isolated gastrointestinal focus.²

When digestive processing advances toward a more developed stage, symptom patterns evolve toward scanty evacuation, frothy discharge, dryness, and musculoskeletal discomfort. Such manifestations reflect deeper systemic involvement and demonstrate the layered diagnostic reasoning embedded within classical nosology.²

Surgical collection literature explicitly acknowledges fear and grief as etiological factors for diarrhoeal illness, reinforcing psychosomatic understanding. These references illustrate continuity across textual traditions recognising emotional disturbance as physiologically consequential.³

Ashtanga Hrudayam elaborates that mental agitation resulting from fear causes Vata to associate with Pitta, liquefying fecal matter and producing diarrhoeal output. Madhavanidanam similarly enumerates emotional causation among recognised determinants of disease, demonstrating intertextual consistency.^{4,5}

Traditional and modern interpretive scholarship note behavioural patterns whereby acute fright may induce immediate bowel evacuation and repeated episodes may arise through anticipatory anxiety. Such observations align with contemporary behavioural medicine perspectives and provide valuable context for integrative research.⁶

3. BRAIN–GUT AXIS AND BIOMEDICAL EVIDENCE

Modern physiology recognises the enteric nervous system as a complex regulatory network capable of semi-autonomous function while maintaining communication with central neural structures. Emotional stress can alter intestinal motility, secretion, and sensitivity through autonomic activation and neurotransmitter release.⁹

Psychoneuroimmunology research further demonstrates interactions between stress, microbiota composition, and immune activity. Alterations in microbial balance or immune signaling may influence neural processing and intestinal permeability, highlighting the multidimensional nature of gut–brain communication.⁷

Comprehensive reviews of gut–brain signaling emphasise hormonal feedback loops, neurochemical exchange, and microbial metabolites as mediators linking psychological state with digestive outcome. These findings offer mechanistic frameworks that contextualise classical experiential observations.⁸

Clinical acknowledgement of stress-related diarrhoea within contemporary healthcare reinforces the physiological plausibility of emotionally induced gastrointestinal disturbance and encourages cross-disciplinary interpretation.⁹

4. INTEGRATIVE CONCEPTUAL ANALYSIS

Comparative evaluation suggests interpretive parallels between Ayurvedic constructs and biomedical models: emotional provocation described as Bhaya may correspond to stress activation; Vata imbalance may align with autonomic dysregulation; and digestive disturbance may reflect metabolic irregularity. These correspondences are exploratory tools facilitating scholarly dialogue rather than implying equivalence between theoretical systems.^{6,8}

5. CONCLUSION

This review demonstrates convergence between classical Ayurvedic understanding and contemporary scientific knowledge regarding psychological influence on gastrointestinal function. Bhayaja Atisara serves as a conceptual interface enabling interdisciplinary exploration and highlighting the value of integrating historical insight with modern research approaches.⁸

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